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09/898,439	07/05/2001	Tue Nguyen	TEGL-01165US0	1885
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FLIESLER MEYER LLP			HOANG, QUOC DINH	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

**MAILED**  
JAN 04 2008  
**GROUP 2800**

Application Number: 09/898,439  
Filing Date: July 05, 2001  
Appellant(s): NGUYEN ET AL.

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Tue Nguyen  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 08/10/2007 appealing from the Office action mailed 12/18/2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,750,077	AMAGASA	6-1988
6,488,862	YE et al	12-2002

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 30 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Amagasa (U.S. Pat No. 4,750,077).

Regarding claim 30, Amagasa teaches an improved apparatus for semiconductor processing, the improvement comprising a helical ribbon electrode 50, wherein the helical ribbon electrode 50 comprises a compressed cylindrical helix having a plurality of flat concentric spiral coils 52 separated from each other by a sheet of dielectric material 54, each said flat concentric spiral coil 52 comprising a ribbon-like form, said ribbon-like

form comprising a width and a thickness wherein the width is substantially greater than the thickness, the width lying in a plane that faces another of said plurality of flat concentric spiral coils, and the thickness corresponding to a plane that is substantially parallel to a direction of stacking of said plurality of flat concentric spiral coils (col. 3, line 10 through col. 4, line 42 and Fig. 4).

Regarding claim 38, Amagasa teaches an improved electrode 50 for coupling to the output of a generator (power source equipment), the improvement comprising a helical ribbon electrode further comprising:

a plurality of substantially flat, concentric, spirally-connected coils 52, said coils having a width and a thickness, the width being in a dimension facing an adjacent coil, and the thickness being perpendicular to the width, where the width is substantially greater than the thickness; and

a sheet of dielectric material 54 between adjacent coils (col. 3, line 10 through col. 4, line 42 and Fig. 4).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ye et al (U.S. Pat No. 6,488,862 herein after "Ye") in view of Amagasa (U.S. Pat No. 4,750,077).

Regarding claim 35, Ye teaches an apparatus for semiconductor processing, the apparatus comprising:

a process chamber 10 (col. 8, lines 5-45 and col. 11, lines 28-47 and Fig. 1);

a solid state RF plasma generator 18 coupled to the process chamber 10 to excite a processing gas (through gas inlet 26) and generate a plasma (col. 8, lines 5-45 and col. 11, lines 28-47 and Fig. 1);

a controller coupled to the solid state RF plasma generator to pulse the solid state radio frequency plasma generator for each deposited layer (col. 11, lines 28-47 and Fig. 1). *Note that the pulse time is considered to be the controller, and*

a cylindrical helical ribbon electrode 12 coupled to an output of the solid state radio frequency plasma generator 18, the cylindrical helical ribbon electrode further comprising; a plurality of spirally-connected ribbon-shaped coils 12, and wherein a cylindrical helical ribbon electrode is placed at a distance of about 4 inches from the substrate 14 (col. 8, lines 5-45, col. 9. lines 1-5 and col. 11, lines 28-47 and Fig. 1).

Ye teaches the spirally-connected ribbon-shaped coils, but does not teach each said coil having a width and a thickness; the width substantially greater than the thickness and flat in a dimension facing another of said plurality of spirally-connected ribbon-shaped coils, and wherein a sheet of dielectric material separates adjacent spirally-connected ribbon-shaped coils.

However, Amagasa teaches a spirally-connected ribbon-shaped coils 50, each said coil 52 having a width and a thickness; the width substantially greater than the thickness and flat in a dimension facing another of said plurality of spirally-connected ribbon-shaped coils; and the thickness is substantially perpendicular to the width, and wherein a sheet of dielectric material 54 separates adjacent spirally-connected ribbon-shaped coils 50 so that, when compressed, the adjacent surfaces of the spirally-connected ribbon-shaped coils do not touch (col. 3, line 10 through col. 4, line 42 and Fig. 4). Since Ye and Amagasa are all from the same field of endeavor, the purpose disclosed by Amagasa would have been recognized in the pertinent art of Ye. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide the dielectric material separates adjacent coils in order to reduce the size while increase the capacitance of the coils as taught by Amagasa, column 5, lines 58-61.

Regarding claim 36, Ye does not teach a sheet of dielectric material is greater than the width of the spirally-connected ribbon-shaped coils.

Amagasa teaches wherein the width of the sheet of dielectric material 64 is greater than the width of the spirally-connected ribbon-shaped coils 60 (col. 4, lines 30-42 and Figs 5-6). Since Ye and Amagasa are all from the same field of endeavor, the purpose disclosed by Amagasa would have been recognized in the pertinent art of Ye. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to provide dielectric material is greater than the width of the coils in

order to wound around the coils with dielectric material as taught by Amagasa, column 4, lines 30-40.

### **(10) Response to Argument**

#### **A. Independent claims 30 and 38 are patentable under 35 U.S.C. § 102(b) over Amagasa**

Applicant argues that Amagasa does not disclose *"an electrode"* and *"a sheet of material separating the coils turns"*. Brief, pages 5-6. This argument is not convincing, especially since Amagasa teaches in fig. 4 an electrode (coil conductor 52) and a sheet of dielectric material (insulator 54) between adjacent coils (col. 4, lines 15-26 and Fig. 4).

In response to applicant's argument that *"an electrode is a conductor, which is not necessarily an inductor, and which possesses different design characteristics for the purpose of efficiently radiate energy from an RF generator"*. Brief, page 5. This argument is not convincing, since Amagasa teaches the coil 52 is a coil conductor (see col. 4, line 15). The recitation "for coupling to the output of a RF generator" in claim 38 has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190



USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Therefore, Amagasa, as indicated in the above rejection, clearly discloses the claimed features.

**B. Independent claims 35 and 36 are patentable under 35 U.S.C. § 103(a) over Ye and Amagasa**

In response to applicant's argument that "*Ye and Amagasa are not from the same field of endeavor*" and "*there is no connection between Ye's coil and Amagasa's coil*". *Brief*, page 7. This argument is not convincing, especially since both Ye and Amagasa teaches spiral coil 12 and spiral coil 52, respectively.

In response to applicant's argument that "*the purpose of Amagasa would not be recognized in the pertinent art of Ye*" *Brief*, page 8, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Furthermore, Amagasa provides motivation for the combination with Ye in that the dielectric material separates adjacent coils in order to reduce the size while increase the capacitance of the coils (e.g. see column 5, lines 58-61). Therefore, applicant's arguments are not persuasive and the rejection is proper.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

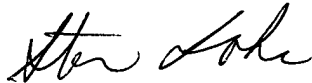


**QUOC D. HOANG**  
**PRIMARY PATENT EXAMINER**

January 1, 2008

Conferees:

Steven H. Loke  
SPE-AU 2818



Mack Ricky L  
SPE-AU 2873



Fliesler Meyer LLP  
650 California Street, Fourteenth Floor  
San Francisco, California 94108